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ABSTRACT

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Comparison Between First and Second Language Learning

John Macnamara[1]

McGill University

Abstract

The thesis of the paper is that the process of learning a second language, if successful, is the same as that of learning a first one. The paper discusses various objections that have been raised against this thesis, and it discusses the considerable body of research which explores it. It examines the appropriateness of the research data for throwing light on the validity of the thesis. It concludes with some practical guidelines for language teachers drawn from observations of babies learning their mother tongue.

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When an infant, a ten-year old child, and an adult learn Russian the most striking outcome is Russian. The three are at one in that. And since the product is the same the best theoretical explanation is that the process whereby they did it is the same. That theory may prove to be wrong and then it should be modified, but unless it is proved wrong, it should hold sway against all rivals.

The theory has not had strong rivals for the very good reason that it did not exist until recently--see Asher (1972), Corder (1967), and Macnamara (1973). Such rivals as existed were mainly implicit in language teaching methods which quite clearly spring from the belief that language learning in infants was, or had to be, a quite different matter from language learning at a later age. In keeping with the opening statement, the thesis of this paper is that language teaching should model itself as far as possible on language learning in the nursery.

Though all this is likely to receive a more ready hearing today than it would have ten years ago, it still meets with some stock objections, as well as some new ones developing out of recent research, which must all be answered. In view of the popularity of the area for empirical research it is important to ask what will serve as evidence for and what as evidence against the theory.

To establish the theory is not enough, however; there are quite a number of practical applications which must be made. These arise from a commonsense comparison of nurseries and classrooms from the language learning perspective. Our knowledge of how mothers talk to babies and of how babies

learn to speak is growing and suggests broad guidelines for language teaching and learning. But first some general remarks about language learning at any age.

Language learning-general remarks

The human capacity to learn a language like English or German must be specified in relation to such a language, because it is the capacity to learn that language. If we could specify exactly the code which we call German, we would have taken the first and most important step towards specifying the nature of the language learning capacity. The second step would be to specify the actual learning process in which a person employs his capacity to grapple with German and master it. The work of explanation would have to be rounded out with an account of linguistic universals as well as the specifics of German. Presumably all languages meet a set of universal constraints which arise from basic characteristics of our capacity to learn a language and communicate in it. The specifics of a language, its particular rules of syntax, morphology and phonology as well as its lexicon, not only meet the universal constraints but they are actually learned. It must be borne in mind that the function of the language learning capacity is not just to decide whether or not a code is a language by testing it against the universal constraints; it is also to learn the details of the language. The ability to master and apply the details forms part of what we call the human ability to learn a language.

All of this is somewhat academic for the very good reason that we are very far indeed from being able to specify any language, such as German, either in terms of universals or specifics. Witness the rival statements of

any of the rules of grammar. There are contesting schools of grammarians, traditionalists, structuralists, and transformationalists who divide into generativists and interpretavists, and in any one school there is divergence of opinion. No school can gain a complete victory. Even more fundamentally no school can give a satisfactory definition of so basic a building material as a noun. Traditionalists would say that it is the name of a person, place, or thing, and by "thing" cover every word which was not the name of a person or place and yet was a noun. Structuralists and transformationalists would say a noun was any word which could serve in the noun slot of a sentence. The noun slot turns out to be the one where the nouns go. Curiously, all grammarians would agree in drawing up a list of nouns.

The learning process, as one might expect, is even more obscure than language. The psychology of learning for most of its history was concerned with laws of learning which applied to all species of animals learning all types of matter. Naturally this approach led to the misunderstanding and misrepresentation of all learning in all species. Today, (Seligman, 1970, Bindra, 1974) learning theorists are more sensitive to species specific responses, but in so far as my understanding of the matter goes they are still employing the same basic learning devices, namely associations. In so far as this is true, the theory leaves no room for hypothesis testing and for the learning of abstract rules (which are defined as operations on such abstract entities as sentence and noun) on the basis of insight into data. Learning theory, then, cannot help much in teaching us how a child learns a language.

The point of these general remarks is to emphasize how far we are from having a scientific account of language learning. They inspire modesty in the interpretation of empirical data related to language learning and in

theory building, and they serve as background to what I shall say about "formal instruction" in a language.

Objections

Age. Partly in opposition to the position I am taking is the common belief that one's language learning capacity begins to atrophy early in life, say at adolescence. I say partly because even if the belief were true it would not overturn the position that the process of language learning in infant and adult was basically the same. It might prove that the adult would not be as successful as the child, but not that he would be doing a different thing.

The evidence for the popular belief is that babies pick up their mother tongue with what seems like great ease, and so do young children in suitable environments (playing with children who speak another language), whereas adults seem to struggle ineffectively with a new language and to impose on it the phonology and syntax of their mother tongue. The argument has been supported by some evidence from neurophysiology (Penfield & Roberts, 1959) and some from its counterpart in clinical experience (Lenneberg, 1967, pp. 142 ff.). The essence of the claim is that if the speech area of the brain is damaged in a young child, another area takes over; clinically, young children usually recover completely from aphasia whereas adults almost never do but are left with some sequelae. This is a very weak case, and probably tells us nothing about the ability to learn languages in normal adults. What could the learning of a second language in adulthood have to do with recovery from injury in the speech areas of the brain? Presumably the functions of a second language in normal adult or child are located in the same areas as the functions of the first language. Learning a second

language th[illegible] in normal people involves the normal brain centers, and has no clear connection with employing abnormal ones.

Observation o[illegible] normal persons, however, does at first sight support the idea that adults are not as good at learning languages as children. I suspect that the anecdotal evidence which suggests a difference compounds two factors, age and setting. Small children generally do not go to school; they learn languages in the street. Older people generally try to learn them in school. These are basically different learning experiences. In the street a child's attention is generally on what is being said and on what he has to say; in school attention is generally focused on language, not on what is being said in language.

Nevertheless many families have the experience of moving to a new linguistic environment in which the children rapidly learn the language and the adults do not. This was the common experience of English families which moved to one of the colonies, India for example. In such cases there are two likely explanations. The children probably spent much more time in the company of the native people, servants and children, and were spoken to in the local language--see Burling (1959). Moreover, the adults but not the children normally adopted an unfavourable posture to the local language. If adults insisted on speaking English, little wonder they never learned the local language. However, Italian families which immigrated to the United States often met with a similar linguistic fate--the children learned English well, the parents despite favourable attitudes did not. Is this conclusive evidence that language learning ability atrophies?

No! It could well be that there is strong peer pressure on children to conform to local linguistic standards, but not on adults. It might simply be that American children are more cruel to immigrant children, than American adults are to immigrant adults. Indeed here may lie the explanation of what

Krashen and his associates (Krashen & Seliger, in press, a) claim to be a fact--unlike children, adults generally do not make progress in a second language as a function of using it in natural settings, but they need "formal" instruction. Let us leave aside problems related to how this claim was established, such as how well the tests measured communicative competence and colloquial usage as compared with ability to respond correctly to classroom quizes couched in the standard variety of the language; let us leave aside, too, problems related to what is meant by formal instruction: we still see that peer pressure has not been controlled. All that the classroom may be doing, and this is not to take from the merit of Krasnen & Seliger's work, is to supply the peer pressure which children encounter. Peer pressure, too, may explain the important finding of Labov (1966) that persons who moved to Manhattan after the age of twelve seldom came to sound exactly like persons who grew up there.

How could we find out whether the language learning ability of adults has diminished or altered significantly from what it was in childhood? It would be necessary to take some adults away from their daily occupations and worries, and place them, individually, in settings where they could communicate only in the second language; where the incentives provided for adults for improving speech equalled those provided to babies, and where peer pressure to conform to correct usage (preferably in the form of mockery) equalled that experienced by children. Naturally such an experiment has never been carried out, and for that reason there simply are no grounds for the common fatalism about adults' ability to learn languages.

On the contrary, what experimental evidence we have suggests that

adults are better than children. Moeser (in preparation) has evidence that adults learn a miniature artificial language more rapidly than children. Asher & Price (1967) found adults superior at deciphering and remembering instructions given in a foreign language. Ervin-Tripp (1974) found older English-speaking children, aged about nine, learned all aspects of French more rapidly in a natural setting than younger ones, aged about four or five. The evidence is indeed scanty, but it suggests optimism.

Attitudes. Among the commonly canvassed explanations of why one person makes more progress than another in learning a language in school is attitude. I am sure that the explanation is not without foundation. There is now a body of research (Gardner & Lambert, 1972; Gardner, Smythe, Kirby & Bramwell, 1974) to show that attitudes correlate with success in language class. The research also supports the claim that the type of attitude has an effect: an "instrumental" or utilitarian attitude is not as good as an "integrative" one, that is one which springs from the desire to know and make friends among the speakers of the language.

What looks like a reasonable extension of the argument might be: children in such natural language settings as nurseries and streets learn language better than they do in classrooms, so they must have, even more than in a classroom, just the right attitudes. To say any less would be to admit that attitude was not really important outside the classroom. Moreover, it might seem that the right way to improve language teaching would be to develop methods to engender the most favourable attitudes among students. Attitude, then, rather than the learning process, is taken to be the important variable.

Note carefully what the attitudes are towards.....towards the

language itself, towards the people who speak it and towards their culture and achievements. Against any argument about the basic importance of such attitudes is the historical fact that language shifts have generally been accompanied by unfavourable attitudes to a conquering people and its language. There has always been antipathy between the English and Irish; yet English replaced Irish. The Highland Scots felt and behaved just like the Irish, and while the Welsh proved tougher than either, they too have succumbed to some extent. These people are following in ancient footsteps, because centuries ago the Celtic languages of Europe were almost entirely replaced by Latin. Despite determined efforts to prevent it, the people of Province have accepted French in place of Provencal; and the Catelonians have learned Castilian. There is no need to multiply examples.

A child suddenly transported from Montreal to Berlin will rapidly learn German no matter what he thinks of the Germans. Indeed, when he makes his first appearance on the street and meets German children he is likely to be appalled by the experience. They will not understand a word he says; they will not make sense to him when they speak, and they are likely to punish him by keeping him incommunicado. Yet his learning will be the envy of even the most favourably disposed student in a language classroom.

From all this it seems unlikely that a major solution to the problem of how to teach a language will be found in the manipulation of attitude of the sort we have been considering.

Time. If one proposes a thesis such as that with which we began to a group of teachers or educationalists, one is almost certain to be told that the major difference between language classes and natural settings is the amount of time spent on languages. The idea is that time, rather than approach, is the explanation of why children do not fare so well in language class.

There is no doubt that time is an important variable; language learning is always gradual. Small children spend much more time listening to and practising their native tongue than students in a language course do.

Nonetheless there are informal grounds for believing that the time of the ordinary language class is not well spent. Macnamara, Svarc and Horner (in preparation) have been inquiring among other things into the progress in the second language of children from French homes in English primary schools, and children from English homes in French ones, in Montreal. These are children for the most part in classes where they are the linguistic minority. There is agreement among teachers that by the middle of their second year the children who came to the school in grade 1 have achieved sufficient command of the second language to take full part with ease in the work of the class. If we allow that the whole time of the school day is devoted to French--a too generous assumption--the total time available to a child in a year and a half is about 1620 hours. On the other hand, the traditional practice of the Protestant School Board of Greater Montreal for English children is about 3/4 hours of French a day from grade 3 through 11. This amounts to 1215 hours of school time, which compares favourably with the figure just given; in addition it is occupied with spaced learning compared with that of children being schooled in their second language, and that is supposed to be an advantage. While we have no measures to prove the point, it seems to us that the children schooled in the second language are vastly superior in the second language after a year and a half to the Protestant School Board's English speakers after nine years of French lessons. Indeed it seems likely that the children being schooled in the second language would show their superiority quite clearly after only the first term of the first year.

But in any event, time should be raised only in the context of what to do with it. To say that infants have longer time in which to learn their first language than students have to learn their second, adding that the infants achieve greater mastery, of itself tells us nothing about how to spend the time of the language lesson. Some teachers argue that because the time is shorter the method of learning in school must be different. But that does not follow unless they can demonstrate that the different method is more effective than a method based on infant language learning. Such a demonstration does not exist and the informal evidence, of the type we have just cited, leads to the opposite conclusion.

Research

There have been well over twenty studies in the past five years which have discussed whether second language learning is the same process as learning the first. The researchers tend to interpret their data as supporting one of three positions which are taken, at times, as being mutually exclusive and as engendering different beliefs about the relation between first and second language learning. They are:

A. Identical processes: The learning of a second language is scarcely influenced at all by the learner's other language. The processes which persons employ to learn a second language recapitulate in detail those which infants employ when learning the same language--Corder (1967), Dulay & Burt (1974).

B. Interlanguage: Another position is that the utterances of the second language learner differ in form from those of the native speakers of that language and those of the learner's mother tongue; the learner's utterances

reveal a grammar of their own--Fishman (1968), Selinker (1972).

C. Interference: The claim is that the learner employs the structures of his mother tongue in forming sentences in the second language. I know of no one who supports this position to the exclusion of the others, though several writers believe that interference occurs--e.g. Sampson and Richards (1973).

It is not at all clear how mutually exclusive these positions are. The second does not seem to rule out strictly from the interlanguage all forms and structures belonging to the two main languages. It seems to make no stronger claim than that the interlanguage will contain some forms and structures which do not belong in either of the two main languages; how many and which are unspecified. This means that the interlanguage can contain many traces of the mother tongue; and so it is not incompatible with interference. In addition, the specifically interlanguage structures can be those which an infant employs in learning the target language as mother tongue. Indeed, the interlanguage claim reduces to an amalgam of the first and third.

Further, the first position does not exclude the third, nor the third the first. No researcher would reject the identical processes claim just because a small number of the learner's errors could be traced to his mother tongue. But how many? It seems that there would be no need to give up the identical processes claim unless all errors in the learner's speech could be traced to his mother tongue. No doubt a supporter of the position would probably settle for something stronger; he would give it up only if all systematic errors could be traced to the mother tongue. A

supporter of the interference claim would be forced to abandon it only if there were some errors which could not be traced to the mother tongue.

All this allows for so much latitude that it seems out of the question that any study or set of studies will decide between the different positions. In any case there seems to be no need to do so. With Sampson & Richards (1973) we can assume that both the interference and the identical processes claims are justified, and not lay too much weight on the word, identical. We do not know all the processes which infants employ, and so we cannot with confidence say of any which a second language learner employs that it is not one which infants employ. As Hatch (1974) and others point out, interference too is difficult to establish, since the sources of error are often tantalizingly complex.

More generally we may ask what will serve as evidence in favour of either position one or three. Two types have been collected: data relating to the order in which certain morphemes are learned and errors. Data on order cannot confirm or refute the interference hypothesis. In relation to the identical processes hypothesis, the researcher's stance seems to be that if a set of morphemes are acquired by first and second language learners in the same order, we can assume that both are employing the same processes. That seems reasonable. But what if the order varies; can we then reject the hypotheses? Clearly no, because order of acquisition does not throw much light on how any are actually acquired. Moreover, it seems quite likely that, say, time might be more important to a child of ten years than to an infant of twenty months, and if it were it is quite conceivable that the older child would acquire tense markers earlier in the series of morphemes than the younger one; all this without any need

to suppose any difference between the two in the way they set about learning particular morphemes or the linguistic constraints on their learning them. This is all the more evident for the fact that there is not complete agreement among children learning their mother tongue. Brown (1973) cites correlations between pairs of mother tongue learners in the order of about 0.8. Though this marks considerable agreement, it means that the correlation accounts for only about 64% of the variance. We must not exaggerate!

With these reservations in mind it is still interesting that Hatch (1974) in summarizing some fifteen studies finds considerable agreement across them in order of acquisition. To her studies can be added support from Ervin-Tripp (1974), Dulay & Burt (1974a), Gillis (1974), Milton (1974) and partial support from Cancino, Rosansky & Schumann (1974). On the other hand some researchers stress the difference in order: Hakuta (1974), and for some of their data Cancino, Rosansky & Schumann (1974).

The data on errors is more scanty. Corder (1967), Ravem (1968), Ervin-Tripp (1974), Dulay & Burt (1974a) and Gillis (1975) find that a great many of the errors which second language learners make cannot be traced to their mother tongue. However, in a balanced review Hatch (1974) points out that although observers can easily be deceived about the provenance of errors,

> there are many deviations which simply must be ascribed to mother tongue. Among such are instances of language mixing; the second language learner employs a word or expression from the old language in the new one, and at times the whole utterance seems to be a direct translation from the mother tongue. I once heard a child who had learned Irish before English say, "there's hunger on me." The preposition and overall structure seem to be a literal translation from Irish (Tá ocras orm). But, not quite, because one cannot in Irish reduce the copula as he did in English, and a single Irish word, orm,

corresponds to the two English words, "on me." Most people can cite similar examples where part, but not all, of the structure is borrowed from another language.

On the other hand I have recently observed a Spanish-speaking girl of seven learning French. Several times she made mistakes which small French children make, even though Spanish provided her with a correct structure which could have been translated directly into correct French. For example, she frequently said, Je suis froid, instead of the correct, J'ai froid (I have cold); although the correct Spanish and French forms correspond exactly, Yo tengo frio (I have cold). From such evidence I am inclined to agree with a modified form of the identical processes hypothesis: one does observe second language learners grapple with the grammar of the new language and reach interim solutions which correspond to those reached by young native speakers. So the truth lies in some combination of interference and exact processes.

At this point it is time to ask what all this has to say to the main thesis which we are discussing. Clearly, if second language learners go through some of the same processes as native learners, the thesis is upheld, to the corresponding degree. But what if we see interference? This does not on the face of it disturb the thesis. Children in learning their mother tongue overextend the use of words making, say, mi stand for milk and kitten. They overextend the rules they have acquired and say "foots." Basically they are applying learned rules where they are not permitted by the language. This is not very different from applying the material and rules of one language when speaking another. One is doing the best one can with the means one has available. So interference does not disprove our initial thesis.

What would disprove it? Strangely, that is not an easy question to answer, such is our ignorance of first language learning, but I will hazard a few suggestions. If it were discovered that adults cannot discover the rules of the new language for themselves, but had to have them explained to them, the thesis would suffer. Note, the cannot rather than do not; it would have to be shown that adults, on engaging in conversation with adults who accommodated their speech as when speaking to children could not discover the structures of the new language, or could only do so with very much greater difficulty than native learners. This has not even been studied, so far as I am aware. The thesis would also have to be abandoned if it were discovered that people could not learn a second language unless they saw it written down; or if they had to have rules presented as an uninterpreted formal system, such as S→NP + VP. However the further one probes the matter the more improbable it appears that there is any radical difference between learning a first and second language.

Formal instruction. There is a popular belief that adults cannot learn a language without "formal instruction" whereas children can; a belief now supported by several interesting papers on adult language learning--Krashen & Seliger (in press, a & b), Krashen, Seliger & Hartnett (in press) and Krashen, Jones, Zelinski and Usprich (in press). This topic might have been dealt with in the section on age, but it seemed useful to discuss it after the rest of the research. Naturally, if adults could not learn a second language without formal instruction, then our thesis would have to be abandoned at least for adults.

I have already suggested that one of the reasons that adults' progress in a language becomes arrested or "fossilized", whereas a child's does not,

might be absence of peer pressure on adults, goading them to conform. But there is more to it than that. We have seen above that the term formal instruction is a complete misnomer for what a language teacher can do. He cannot give a valid formalism for any rule in any language; and even if he could, the question of psychological validity would arise. In other words was the linguistic formalism of a form suitable to be learned and applied by the human mind, or would it aid, rather than hinder, the learner in establishing some psychological rule for speaking? Here we are on very thin ice; so thin that we would be advised to leave it.

Perhaps what people intend by "formal instruction" is really "systematic instruction." Traditional language courses were systematic in that they had some such plan as beginning with the simplest declarative sentences, presenting the declensions of nouns and conjugations of verbs in order, and so forth. I remember learning a list of all the verbs which in Latin took the dative case. Each time I translated all but the most obvious verbs I recited the list to myself. Cicero had no such list and even if he had it could not but have hindered him. This is just the old question of psychologically useful rule.

On the other hand grammar books present many of the regularities of a language in a manner that many learners have found useful. It is the case that such rules are often taught explicitly to second language learners, never to infants. Let us for the moment accept that such rules are often useful for second language learners; does it follow that second and first language learning are for this reason basically different? Surely no, since the task of the learner in both cases is to detect the regularities of the language and represent them internally in such a way as to guide his interpre-

tation and production of speech. All the rules in the grammar book do is draw attention by means of examples, hints, and intuitively grasped notions, to the regularities; after that, by means of exercises, the learner must promote the totally obscure processes of representing the regularities in useful form. At most, successful language teaching is no more than guided rule detection, where infant language learning is not so guided. It follows that even if second language learners needed classroom instruction, the basic position of this paper would not be undermined. However, we have seen above indications that language lessons do not seem, at present, to help as much as experience in natural communication settings.

Practical guidelines for the teacher

Though some writers have proposed that language teaching in classrooms should be modelled on the communication between mothers and babies, no one, so far as I am aware, has derived practical guidelines from what we have learned from recent studies of language learning in babies. Yet such guidelines are neither impractical nor counterintuitive to what we know of the school child. Let us then assume that the school child's mind is so fashioned that he approaches language learning largely as an infant does, and see what follows.

Our first conclusion is that the teacher misses the whole point of "natural" language learning, because his attention is on language whereas that of the infant is on the message. Language is for communicating, not for learning, and we learn it best when our conscious attention is on meaning--see Macnamara (1972). More to the point, the language teacher seldom has anything to say so important that his pupils will eagerly guess his meaning. And pupils seldom have anything so urgent to say to the teacher that they will improvise with whatever communicative skills they possess to get their meaning across. How different is language learning in the

nursery and in the street.

From this central confusion on the part of teachers follow several corollaries. Babies begin with one-word sentences. School children are usually required to talk in full sentences in an unnatural manner: "that is not a duck; that is an aeroplane."

Parents are proud of any effort which a small child makes to express himself in words. They welcome and interpret his phonological innovations; they accept his bits of words; they understand his telegraphese. As a matter of fact parents seldom correct a small child's prounuciation or grammer; they correct his bad manners and his errors on points of fact. Somehow, when a child is vitally concerned with communicating, he gradually gets over his difficulties and eradicates errors, at least to the point where society accepts his speech. His parents' attention is on meaning and so is his own. And curiously he and his parents break one of psychology's basic learning rules. Psychology would advise that he should be rewarded only for linguistically correct utterances, whereas parents reward him for almost any utterance. Perhaps there is more wisdom in the proverb: we learn by our mistakes. In contrast to parents, the teacher pounces on all departures from phonological and syntactic perfection; he does not care what the student says as long as he says it correctly.

Finally, a mother does not have another verbal language in which to talk to the baby if he fails to understand her. She has to make do with gestures, facial expressions and exaggerated tones of voice-see Macnamara & Baker (in preparation). Because they are both involved in communicating they usually manage somehow. How different is the classroom! Teacher and child usually have another common language, and could communicate better

if they really needed to. Indeed they often have recourse to that other language. Teachers, unlike mothers,do not exploit to the full the basic language of gesture, intonation, facial expressions, and events in the environment, to provide the child with clues to the meaning. As a result, classroom conversations seem remote, unreal, and often lifeless compared with the conversations of a mother and child. Basically it is the disease we have encountered before: the teacher sees language mainly as something to be learned, the child is interested in what someone can tell him by means of it.

Probably the teacher's best strategy would be to turn the language class into an activity period. If the students are cooking, or engaged in handicraft, needs to communicate arise. The teacher could explain in the new language what needed to be done and allow students to demand further classification and information. The teacher should be so serious about this that he would allow what is being made to be spoiled if the student fails to understand. The teacher should not fuss about language. Perhaps there would be much to gain by mixing students of various levels and proficiencies in the same activity so as to increase the linguistic resources. This would be more like a family, and it has the support of the excellent experience of such cooperation in small country schools. If the teacher tells a story he should not break off every sentence to note unusual usages or to ask whether the students understood some word. The story should be the thing, and the students should be obliged to ask for explanations when they need them. But this is not the place to propose a detailed scheme. I leave that to the teachers who are willing to try the approach which I have suggested.

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